The following listing of claims will replace all prior version, and listing of claims, in this application.

Listing of the claims:

Claims 1-5 (canceled).

6. (Previously Presented) The method of claim 38, wherein a human hematopoeitc cell composition enriched in human T-cells is cultured.

7. (Previously Presented) The method of claim 38, wherein the culture medium is continuously perfused at a ramped rate proportional to the lactate concentration and/or cell density to replace the culture medium without substantial dilution of the cell density.

Claims 8 and 9 (Cancelled).

10. (Previously Presented) The method of claim 38, wherein the cells are cultured for at least 2 days.

11. (Previously Presented) The method of claim 38, wherein the culture medium contains at least 1 growth factor which stimulates the proliferation of the cells.

12. (Previously Presented) The method of claim 38, wherein the cultured lineage committed human cells have enhanced replicative potential.

Claims 13-37 (canceled).

38. (Currently amended) A method for obtaining lineage committed human cells with enhanced biological function comprising culturing a lineage committed human hematopoietic cell composition, wherein the lineage committed human cells are differentiated to at least a point where they are programmed to develop only into a specific type of cell, under physiologically acceptable liquid culture conditions, said conditions including replacement of a liquid culture medium is replaced at rate of from 50% to 100% daily replacement for a cell density of from $1x10^4$ to $1x10^7$ cells per ml of culture ~~at a rate of at least 25% daily replacement continuously~~ for more than one day and for a time sufficient to obtain human lineage committed hematopoietic cells with enhanced biological function, wherein said enhanced biological function is relative to the biological function of the lineage committed human hematopoietic cells that are cultured in a static culture.

39. (Currently Amended) The method of claim 38, wherein the biological function enhanced in the cultured cells comprises at least one member selected from the group consisting of secretion of substances, cell-cell communication, receptor expression on the cell surface, cytolysis, antigen presentation, antigen processing, ability to home *in vivo* to sites for function, and the ability to proliferate leading to development/regeneration of tissue ~~similar to naturally occurring structure/function~~.

40. (Previously Presented) The method of claim 38, wherein the biological function enhanced in the isolated lineage committed human hematopoietic cells comprises increased release of cytokines.

41. (Previously Presented) The method of claim 38, wherein the biological function enhanced in the isolated lineage committed human hematopoietic cells comprises increased cytolytic activity.

Claims 42-48 (Cancelled).

49. (New) The method of claim 39, wherein the biological function enhanced in the cultured cells comprises secretion of substances.

50. (New) The method of claim 39, wherein the biological function enhanced in the cultured cells comprises cell-cell communication.

51. (New) The method of claim 39, wherein the biological function enhanced in the cultured cells comprises receptor expression on the cell surface.

52. (New) The method of claim 39, wherein the biological function enhanced in the cultured cells comprises cytolysis.

53. (New) The method of claim 39, wherein the biological function enhanced in the cultured cells comprises antigen presentation.

54. (New) The method of claim 39, wherein the biological function enhanced in the cultured cells comprises antigen processing.

55. (New) The method of claim 39, wherein the biological function enhanced in the cultured cells comprises ability to home *in vivo* to sites for function.

56. (New) The method of claim 39, wherein the biological function enhanced in the cultured cells comprises and the ability to proliferate leading to development/regeneration of tissue.

57. (New) The method of claim 38, wherein the lineage committed human cell composition comprises at least one type of cell selected from the group consisting of megakaryocytes, monocytes, neutrophils, basophils, eosinophils, tumor specific cytotoxic T lymphocytes, cytokine induced killer cells, antigen presenting cells to tumors, antigen presenting cells to infectious diseases, leukocyte precursors, neutrophils, and mixtures thereof.

58. (New) The method of claim 57, wherein the lineage committed human cell composition comprises megakaryocytes.

59. (New) The method of claim 57, wherein the lineage committed human cell composition comprises monocytes.

60. (New) The method of claim 57, wherein the lineage committed human cell composition comprises neutrophils.

61. (New) The method of claim 57, wherein the lineage committed human cell composition comprises basophils.

62. (New) The method of claim 57, wherein the lineage committed human cell composition comprises eosinophils.

63. (New) The method of claim 57, wherein the lineage committed human cell composition comprises tumor specific cytotoxic T lymphocytes.

64. (New) The method of claim 57, wherein the lineage committed human cell composition comprises cytokine induced killer cells.

65. (New) The method of claim 57, wherein the lineage committed human cell composition comprises antigen presenting cells to tumors.

66. (New) The method of claim 57, wherein the lineage committed human cell composition comprises antigen presenting cells to infectious diseases.

67. (New) The method of claim 57, wherein the lineage committed human cell composition comprises leukocyte precursors.

68. (New) The method of claim 57, wherein the lineage committed human cell composition comprises neutrophils.

69. (New) The method of claim 38, wherein the lineage committed human cell composition comprises at least one cell type selected from the group consisting of T cells, B cells, and mixtures thereof.